

Product Name: Trolox

Catalog No.: 6002

Batch No.: 1

CAS Number: 53188-07-1

IUPAC Name: 3,4-Dihydro-6-hydroxy-2,5,7,8-tetramethyl-2H-1-benzopyran-2-carboxylic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₄H₁₈O₄·½H₂O

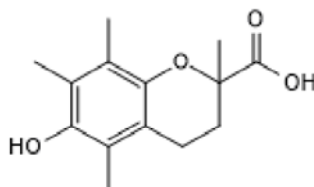
Batch Molecular Weight: 259.3

Physical Appearance: Beige solid

Solubility: DMSO to 100 mM
ethanol to 100 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.7% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

Carbon Hydrogen Nitrogen

Theoretical 64.85 7.39

Found 64.72 7.58

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Antioxidant vitamin E derivative; suppresses osteoclast formation and inhibits IL-1-induced osteoclast bone loss. Also inhibits ferroptosis. Commonly used antifade reagent in live cell imaging; suppresses blinking and photobleaching. Cell-permeable and water soluble.

Physical and Chemical Properties:

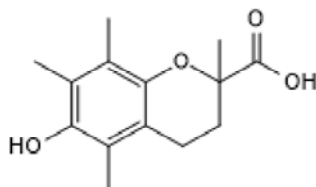
Batch Molecular Formula: C₁₄H₁₈O₄·½H₂O

Batch Molecular Weight: 259.3

Physical Appearance: Beige solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Xie et al (2016) Ferroptosis: process and function. *Cell Death Differ.* **23** 369. PMID: 26794443.

Cordes et al (2009) On the mechanism of Trolox as antiblinking and antibleaching reagent. *J.Am.Chem.Soc.* **131** 5018. PMID: 19301868.

Lee et al (2009) Trolox prevents osteoclastogenesis by suppressing RANKL expression and signaling. *J.Biol.Chem.* **284** 13725. PMID: 19299513.

Giulivi et al (1993) Inhibition of protein radical reactions of ferrylmyoglobin by the water-soluble analog of vitamin E, Trolox C. *Arch.Biochem.Biophys.* **303** 152. PMID: 8489259.

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